ENTOMOLOGICAL NEWS

JULY, 1934

Vol. XLV No. 7

HARRISON GRAY DYAR,
1866-1929.

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PHILADELPHIA, PA.
THE ACADEMY OF NATURAL SCIENCES,
Logan Square

Entered at the Philadelphia, Pa., Post Office as Second Class Matter.
Acceptance for mailing at the special rate of postage prescribed for in Section 1.
Act of October 3, 1917, authorized January 15, 1921.

ENTOMOLOGICAL NEWS

published monthly, excepting August and September, by The American Entomological Society.

Philip P. Calvert, Ph.D., Editor; E. T. Cresson, Jr., R. G. Schmieder, Ph.D., Associate Editors.

Advisory Committee: Philip Laurent, J. A. G. Rehn, Chas. Liebeck, J. Chester Bradley, Ph.D., Frank Morton Jones, Sc.D., John C. Lutz, Max Kisliuk, Jr., Wm. W. Chapman.

The subscription price per year of ten (10) numbers is as follows:

United States and possessions, Central and South America	**$3.00**
Canada	**3.15**
Foreign	**3.25**

Single copies 35 cents.

ADVERTISING RATES: Full width of page. Payments in advance.
One issue, 1 in., $ 1.20, 2 in., $ 2.40, half page, $ 4.00, full page, $ 7.00
Ten issues " 11.00, " 20.00, " 35.00, " 60.00

SUBSCRIPTIONS. All remittances and communications regarding subscriptions, non-receipt of the NEWS or of reprints, and requests for sample copies, should be addressed to

ENTOMOLOGICAL NEWS, 1900 Race Street, PHILADELPHIA, PA.

All complaints regarding non-receipt of issues of the NEWS should be presented within three months from date of mailing of the issue. After that time such numbers, if available, will be supplied only by purchase. Not more than two issues will be replaced gratis, through loss in transit or in change of address, unless such have been registered, at the subscriber's expense. No subscriptions accepted which involve giving a receipt acknowledged before a notary, except at the subscriber's expense.

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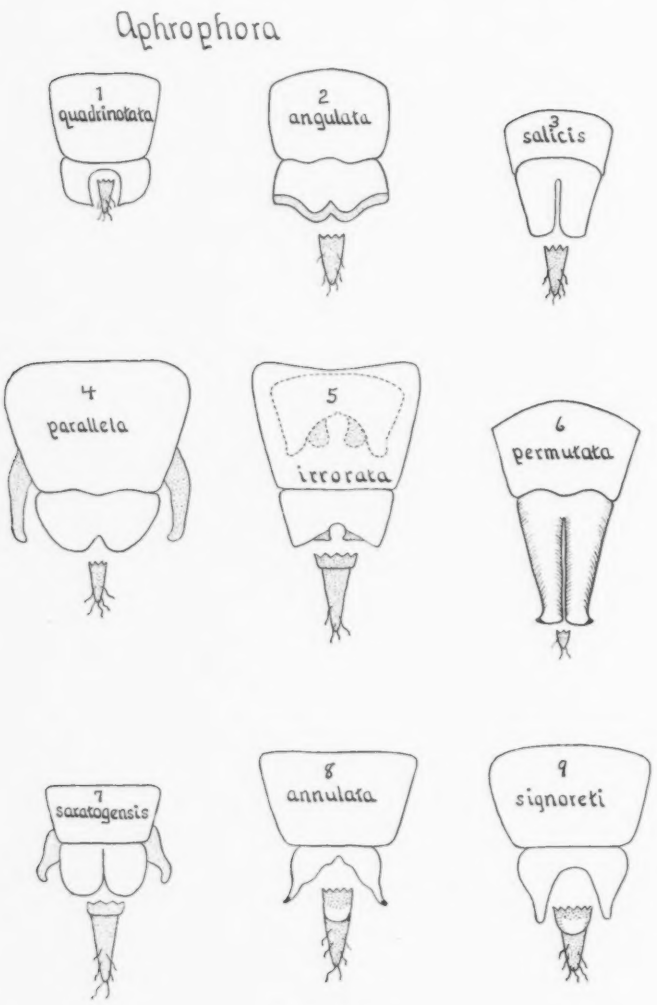
Aphrophora
1
quadrinotata
2
angulata
3
salicis
4
parallela
5
irrorata
6
permutata
7
saratogensis
8
annulata
9
signoreti

E. D. BALL.

ENTOMOLOGICAL NEWS

VOL. XLV. JULY, 1934 No. 7

The Spittle Insects of the Genus Aphrophora Occurring in the United States (Homoptera: Cercopidae).

E. D. BALL, University of Arizona, Tucson.

(Plate I.)

This is a strikingly distinct group of large forms easily recognized by the slightly angulate anterior margin of the pronotum. Nine species are at present recognized from the United States (omitting Alaska), one of these is a recent European introduction and another one will probably prove to be an older introduction when the two faunas are critically compared. Contrary to the usual rule in Cercopidae, the male genital plates are strikingly distinct in pattern and may be relied upon to determine accurately the material in that sex. The writer in 1898 constructed a key to the eight species then known and correctly described the genital structures (but did not figure them). Stearns (1923) confused two species and drew a genital structure unlike either one (see Ball '28). Walley in 1928 reviewed the genus, added three new species and gave genital figures of all but one. Unfortunately he did not recognize the necessity of keeping the plates horizontal while under the microscope with the result that he misinterpreted two of the genitalia and all three of his new species appear to be synonyms. Miss Doering in 1930 accepted Walley's classification in toto, noting, but not including in the key, *A. salicis* the recently introduced species.

The writer appends a brief key to the species and revised figures of the male genitalia. These figures are self-explanatory and show (in white) the structures as they appear when the microscope is in focus on the plates and in shade those

structures that appear if the focus is lowered. The apex of the abdomen is shown as broken, in order to allow a clear outline of the notch in the plates. In No. 5 (*irrorata*) the inset shows the appearance of the plates and the structures below if the plate is slightly tilted, as it was shown in Walley's figure. The key and drawings, together with the relatively restricted distribution given for most of the species should enable one to place accurately the species found north of the Mexican border.

Abbreviated Key to the Species.

A Ground color dirty straw, usually with two white areas on the expanded costal margin separated by an oblique dark band. Weeds, shrubs or willows (not pine).
B Elytra broad, costa ampliate with two large white spots.
C Small (8.5 mm. or less) pronotum with uniform slope.....(Eastern) 1. *quadrinotata* Say
CC Large (10 mm. or over) anterior half of pronotum depressed.....(West Coast) 2. *angulata* Ball
BB Elytra narrow elongate unmarked (Introd. East) .....3. *salicis* De G.
AA Ground color brown or tan. Wavy oblique markings on elytra and frequently a median white line on vertex and pronotum (adults on pine).
D Ground color usually dark brown.
E Front greatly inflated visible from above—nymphs on pine.....(Northeastern) 4. *parallela* Say
EE Front less inflated nymphs feeding on the ground .....(Western local) 5. *irrorata* Ball .....(Western abundant) 6. *permutata* Uhl.
DD Ground color light brown or tan ornamented.
F A medium white line on vertex and pronotum broadening posteriorly. Ovipositor very long and slender.... ..... 7. *saratogensis* Fh.
FF White line wanting or reduced. Ovipositor little longer than the pygofers. (Northeastern) 8. *signoretii* Fh. .....(Western) 9. *annulata* Ball

Notes on Distribution of the Species.

1. A. QUADRINOTATA Say (North and East) from Nova Scotia to northern Florida west to the Dakotas, Nebraska and Kansas, (Tennessee). Not known from central or southern

Florida nor the southwestern plains region. Nymphs and adults abundant on weeds and shrubs.

2. A. ANGULATA Ball (Pacific Coast) found along the California coast from San Francisco south. Nymphs in froth masses in the sheaths of the Giant Umbellifera and adults on willows.

3. A. SALICIS De Geer (Introduced into Eastern United States) feeds on willow.

4. A. PARALLELA Say (North East) from Nova Scotia and Ontario to northern Wisconsin and Northeastern Minnesota. South in the Appalachians to Ohio, West Virginia and Maryland. Miss Doering states that this species has the same distribution as *quadrinotata;* instead it is found feeding, both nymphs and adults, on the pine and apparently is strictly limited to the pine region around the Great Lakes and the upper part of the Appalachian Mountains.

5. A. IRRORATA Ball (= *princeps* Walley) Black Hills region of Dakota and Nebraska, higher mountain regions of Colorado and Utah, and the coast region of British Columbia and Washington, south to central Arizona and California mountain regions. The male plates of this species have a bilobed appendage arising on the upper surface and extending posteriorly so as to be slightly visible from a ventral view. Still more of these lobes are visible if the segment is tilted. An examination of paratypes of *princeps* Walley together with a study of his drawings indicates that failure to differentiate the two structures and a tilted segment in the example of *irrorata* from which he made his drawing were responsible for the synonomy. Adults taken from pine, no nymphs observed.

6. A. PERMUTATA Uhl (Western mountains) abundant from British Columbia to Southern California east to Montana and Colorado on pine. Has not been taken south of Utah or Manitou, Colorado, or east of the main range of the Rocky Mountain. Miss Doering reports an example from Michigan, but on examination it proved to be a female of *signoreti.* Adults on pine, nymphs around the crowns of an aster and a lupine growing beneath the pines.

7. A. SARATOGENSIS *Fitch* (= *canadensis* Walley) (= *puncticeps* Walley) abundant along the Appalachian Mountains from Ontario and Nova Scotia to southern Florida west through Pennsylvania and New York and to Northern Wisconsin where it is abundant in the pine barrens, then to Vancouver, British Columbia, Berkeley and Fresno, California. Walley was evidently led astray by his own figure of the male plates of *saratogensis* which were either distorted or tilted so as to give an inaccurate outline. His figure (8) of the plates in *canadensis* is much more nearly typical of *saratogensis* than his figure 2. *A. puncticeps* was described from a single male with the same type of genitalia, but was differentiated by a rounding posterior margin to the pronotum and a median carina on the posterior half. These characters can be duplicated in any long series of this species. Adults on pine, nymphs on ferns.

8. A. ANNULATA Ball (Western Mountains). Higher elevations in main range of Rockies in Colorado and New Mexico, main range Wasatch in Utah and the main ranges of the Sierras in California. Stearn's record (1923 of this species from New Hampshire and North Carolina was apparently a mistake as he has no material in his collection and was not able to refer the writer to material in any other collection. A search of other collections has not revealed any eastern material and Dr. Z. P. Metcalf has no material from North Carolina of Stearn's determination. Stearn's figure of the male genitalia is not typical of any species and he does not describe the genitalia but quotes the writer's description which he did not do where material was available. Adult on pine, nymphs on crown of sage.

9. A. SIGNORETI Fitch. This rare species was described by Fitch in a New York Report without giving any locality but remarking that the nymphs were injurious to grapes. All of the earlier collections of this species were from a restricted district in the peninsular region of Ontario east of Lake Huron and it is probable that Fitch's material came from adjacent grape growing region near Buffalo. Miss Doering has recently

reported this species from Michigan; an examination of her material (and that which she reported as *permutata*) gives the following additional records: Huron 8-8-26, Douglas Lake 7-12-30, Cheybogan 7-17-30, all localities along the shore of Lake Huron in the "thumb" of Michigan and just across from the region of abundance in Ontario. Miss Doering also records this species from South Dakota, but the material proved to be a female of *irrorata* which is abundant in the Black Hills. The writer has collected in southern and western Michigan and extensively in Wisconsin without finding this species. The known distribution is therefore limited to the peninsula region of Ontario and the opposite shores of Lake Huron in Michigan, and probably a similar situation on the shores of Lake Erie or Ontario in New York (Fitch). Adults from pine, nymphs from grapes.

The Importance of Considering the Season of Appearance in Collecting Species of Orthoptera.

By Morgan Hebard, Philadelphia, Penna.

On July 31, 1919, Rehn and Hebard found *Melanoplus femur-nigrum* Scudder on the San Francisco Peaks in Arizona in maximum adult abundance from 9200 to 10,000 feet, but on the lower slopes more immature females than adult females were present. This again impressed us with the fact that, though Orthoptera might be expected to become adult earlier in the season in the warmer portions of each species distribution, quite the reverse is true. The reason for this is the fact that, in more rigorous environment the season for insect life is shorter and most if not all species respond to the situation by much more rapid growth. Were it not for this, many species could not possibly reach maturity and deposit their eggs for the next year before the advent of killing frosts in the more northern or more elevated portions of their range.

The working of this law first impressed us greatly in 1909, when we started on a collecting trip westward. One of us began on July 24th at Ude, Minnesota, the other on July 11th

at Halsey, Nebraska, and we met at Billings, Montana, on July 28th. Though two weeks of work had been accomplished at more southern localities, four days at more northern localities had produced quite as valuable results, for in Nebraska and eastern Wyoming all of many species were still immature and in other cases only rare adults were to be found, whereas from Minnesota through eastern Montana near the end of July all of the species encountered were present as adults in goodly numbers.

From years of field experience we now know that the great majority of Orthoptera can best be secured adult in the United States after the first of August, though in the northern sections the last two weeks of July may prove satisfactory. The latter is certainly not the proper time to collect further south, as we found another year in the Piedmont of the southeastern United States from July 20th to the end of the month, when the results were discouraging but where it was evident that a few weeks later many species would have been present as adults in goodly numbers.

Still further south in Florida and on the Mexican border, much of value can be found throughout July but the greatest number of species of Orthoptera are to be found adult during September and early October. Later in those regions, but particularly in the West, bad weather may seriously interfere. In almost all western field work, moreover, it is necessary to investigate the fauna found at high elevations and there snow is likely to fall, except in the most southern portions, in late September, terminating such possibilities.

One other situation must, however, be considered by the student. Due to the fact so much field work has been done in the United States in the Summer and Fall, the early appearing species which become scarce or have disappeared by July are in many cases absent from, or poorly represented in, most collections. In specialized field work we would therefore urge the student to do more collecting with a view to securing such species. Their period of greatest adult abundance is, in most cases, from May to late June.

Notes and Descriptions of West American Cerambycidae (Coleoptera).

By E. Gorton Linsley, Oakland, California.

(Continued from page 165.)

Phymatodes propinquus new species.

Elongate, slender, black, head and prothorax rufo-testaceous. Head moderately densely, coarsely punctured, with scattered erect pale hairs on front; antennae shorter than the body, black, not densely or coarsely punctured, sparsely clothed with pale hairs; scape short, not stout, second segment about twice as long as broad, third segment about three times as long as second, remaining segments diminishing gradually in length toward apex. Prothorax rufo-testaceous, transverse, shining, sparsely and not coarsely punctured, rounded at the sides, constricted at base. Elytra two and one-half times as long as broad, parallel-sided, densely, coarsely, and somewhat rugosely punctured, clothed with short suberect hairs; apices rounded. Legs black, sparsely clothed with pale hairs. Length 5 mm.; breadth 1.3 mm.

Holotype ♀, (No. 3830 Mus. Calif. Acad. Sci.) and two *paratypes* (in the collection of the writer) taken in Santa Ana Canyon, Orange County, California in March, 1933, by Mr. Kenneth Sloop, who very kindly presented them to the writer.

This species is related to *P. blandus* Lec., especially the subspecies *picipes*, from which it differs in the long slender form, finer and sparser punctation of the prothorax, and the parallel-sided elytra which are black instead of mettallic blue. *P. propinquus* also resembles the dark phase of *Callidium hirtellum*, but its characters are typically those of *Phymatodes*.

Phymatodes concolor new species.

Elongate, slender, uniformly pale testaceous, sparsely clothed with pale sub-erect hairs. Head finely punctured; eyes black; antennae slender, finely punctured, sparsely ciliate; scape slender, second segment about twice as long as broad, third segment not quite three times as long as second, fourth segment shorter than third, fifth segment subequal to third, remaining segments decreasing gradually in length toward apex. Prothorax slightly transverse, moderately finely, not densely punctured, pubescence sparse. Elytra about three times as long as broad, densely, coarsely punctured, punctures becoming

less dense at base; sides subparallel; apices rotundate-truncate. Legs slender, finely punctured, sparsely clothed with suberect pale hairs; first segment of posterior tarsi equal in length to second and third segments together. Lower surface moderately finely, not densely punctate. Length 5 mm; breadth 1.3 mm.

Holotype ♂, (No. 3831 Mus. Calif. Acad. Sci.) and *allotype* ♀, (No. 3832 Mus. Calif. Acad. Sci.) taken at Big Pine, Inyo County, CALIFORNIA, June 7, 1929, and three *paratypes* taken at the same locality on June 17 and 19, 1929, by Mr. E. P. Van Duzee. Two additional paratypes, from Lone Pine, Inyo County, June 8-10, were taken by Mr. Van Duzee and Mr. Robert L. Usinger. One paratype is deposited in the collection of the writer and the remainder in the collection of the Calif. Acad. of Sciences.

This species also belongs to the *P. blandus* group, but may be easily separated from the other known species by the uniformly pale testaceous color and the fine punctation of the head.

ADETUS BROUSI Horn.

Sicyobius brousi Horn, 1880, Trans. Am. Ent. Soc. VIII, p. 137.

The genus *Sicyobius* of Horn apparently differs in no appreciable way from *Adetus* Lec. Horn states that the anterior coxal cavities are not angulated externally and places the genus in the Hippopsini. I find, however, in a specimen at hand from Brownsville, Texas, that the anterior coxal cavities are distinctly angulated and characters typically those of *Adetus*.

Leptostylus falli new species.

Robust, piceous, densely clothed with white, brown, and yellowish scale-like pubescence. Head about as long as broad, densely pubescent with white and brownish hairs, intermixed with yellow on vertex; front nearly flat, with a narrow longitudinal groove; antennae reddish-brown, longer than the body in both sexes, densely pubescent, segments one to four sparsely ciliate within; scape slender, not quite attaining the lateral thoracic tubercle, second segment slightly longer than broad, third segment a little longer than scape, remaining segments gradually decreasing in length toward apex. Prothorax nearly twice as wide as long, with an obtuse lateral tubercle behind

the middle; coarsely, regularly, and moderately densely punctured; densely pubescent with white, brownish, and yellowish hairs. Elytra one-half longer than broad, subparallel over basal two thirds thence gradually arcuately rounded to the apex; pubescence short, dense, scale-like, intermixed with short, suberect brownish hairs on disk; pubescence brownish over basal and apical thirds, whitish in median area, a large black subglabrous spot as sides; costae evidenced by three longitudinal lines of yellow pubescence; apices obliquely truncate. Legs short; tibiae annulated with black; posterior tarsi with first segment not quite equal to second and third together. Body beneath more or less evenly clothed with white pubescence. Length 8 mm.; breadth 4 mm.

Holotype ♂, (No. 3833 Mus. Calif. Acad. Sci.), *allotype* ♀, (No. 3834 Mus. Calif. Acad. Sci.), and a long series of *paratypes* beaten from dead branches of *Rhus* in Carr Canyon, Huachuca Mts., ARIZONA, July, 1930, 1932, by Mr. J. O. Martin and the writer. Several paratypes are deposited in the collection of Dr. H. C. Fall, to whom this fine species is respectfully dedicated as a slight tribute for the assistance and encouragement he has given to the writer.

In Horn's[a] table of *Leptostylus* this species would run to *L. albidus* Leconte, because of the hairy legs and ciliate antennae. It differs from that species, however, in being darker, with a black subglabrous spot at the sides of the elytra, and with shorter erect hairs on the upper surface. In *L. albidus* these hairs are present on the lateral elytral declivity as well as on the disk, and are about as long as the thickness of the antennal scape. I am indebted to Dr. Fall for comparing this species with the unique type of *albidus*.

Cylindrataxia new genus.

Body elongate, slender, slightly flattened. Front longer than broad, very slightly convex; palpi not slender, apical segment pointed; antennal tubercles prominent; eyes emarginate, coarsely granulated; antennae long, slender, annulated; scape short, stout, about two-thirds as long as third segment which is incurved; segments following third diminishing gradually in length to eleventh which is distinctly longer than tenth. Pro-

[a] Trans. Am. Ent. Soc. VIII, 1880, p. 119.

thorax cylindrical, laterally unarmed, distinctly broader than long. Elytra very elongate, sides arcuate inward. Anterior and middle coxae moderately separated, cavities angulated, open externally, closed behind; mesosternum with a faint longitudinal groove; mesosternal piece parallel between the coxae, rounded behind. Ventral abdominal segments approximately equal in length. Legs short, subequal in length; middle tibiae tuberculate externally near apex; tarsi as long as tibiae, first segment of posterior pair not as long as the two following together, last segment nearly as long as preceding three united, ungues divergent.

Genotype: Cylindrataxia salicicola, new species.

The true affinities of this genus are somewhat uncertain. It shows a definite relationship with *Dorcasta* and *Hippopsis,* but as most of its characters are those of the Ataxiini, it seems best placed in this tribe. In the Ataxiini, the narrow form of *Cylindrataxia,* the laterally unarmed prothorax, and the long slender antennae, will immediately separate it from all of the genera except *Aporataxia* Ham. The latter genus, however, is robust, the elytra shorter, the sides not incurved, the mesosternum deeply and very conspicuously grooved longitudinally, and the mesosternal piece truncate behind. In *Cylindrataxia,* the front is nearly flattened, and the disc of the elytra distinctly so.

Cylindrataxia salicicola new species.

Brownish piceous, rather sparsely clothed with brownish and grayish-white pubescence. Head finely punctured, pubescence grayish white; antennae nearly twice as long as the body (♂), or distinctly longer than the body (♀), basal portion of segments 3-11 white, apical portion of segments dark brown. Prothorax finely punctured, sparsely clothed with grayish-white hairs. Elytra more coarsely punctured, the pale pubescence condensed into five or six irregular and indistinct longitudinal vittae; apices rounded. Body beneath finely punctured, sparsely clothed with pale hairs; fifth ventral abdominal segment of male truncate at apex, of female distinctly cleft at apex. Length 9.5 mm.; breadth 2.3 mm.

Holotype, ♂, (No. 3835 Mus. Calif. Acad. Sci.) and *allotype,* ♀, (No. 3836 Mus. Calif. Acad. Sci.), collected by the

writer at Brownsville, TEXAS, June 23-25, 1930. *Paratypes* in the collections of Mr. J. O. Martin (now deposited in the California Academy of Sciences) and the writer, taken in Brownsville, June 23-25, 1930, and May 29-June 10, 1932. All specimens were beaten from dead branches of *Salix* sp.

This species has a superficial resemblance to *Aporataxia lineata* which is also found in Brownsville, but in addition to its more slender form, flattened appearance, and incurved sides of the elytra, *C. salicicola* has, in life, a very characteristic manner of placing the middle pair of legs and antennae, and as a result the two species may be readily distinguished even in the field. *Aporataxia lineata* is nearly always found on jungle vines and other plants in the semi-tropical areas of Brownsville. *C. salicicola* is found on storm broken branches of *Salix*, and is commonly taken along with *Ecyrus cornutus* Linsley. The species appears to be rather constant in size, and although examples in my series vary from 6.5 to 10 mm., most of them are 8.5-9 mm. in length.

Corethrella appendiculata Grabham from Louisiana (Diptera: Culicidae-Chaoborinae).

By E. HAROLD HINMAN.*

A single male specimen of *Corethrella appendiculata* Grabham† was reared from a larva collected at Fort Jackson, Louisiana, on March 27, 1933. Fort Jackson is a deserted fort on the west bank of the Mississippi River, sixty-five miles south of New Orleans. It is surrounded by a moat overgrown with water-hyacinth (*Piaropus crassipes*) from which the *Corethrella* was obtained. Anopheline larvae (*crucians and quadrimaculatus*) also occur in the moat. The pupal period occupied less than seventy-two hours.

This species of Chaoborinae was described from Jamaica, the larvae being recovered from the water in a hollow tree.

* From the Department of Tropical Medicine, Louisiana State University Medical Center, New Orleans, La.

† The writer is indebted to Dr. Robert Matheson of the Department of Entomology, New York State College of Agriculture, Cornell University, Ithaca, N. Y. for identification of this specimen.

The larvae were observed feeding on crustaceans and usually remained at the bottom. The pupal stage was said to last three weeks. Dyar and Shannon (1924) state that larvae have been found in tree holes and bamboo joints and list the distribution as Jamaica, Santo Domingo and Panama. Dyar (1926) examined material of this species from Gatun, Panama, and described a closely related species from the leaf bases of the wild pineapple.

So far as is known this is the first record of the species from the United States. It seems quite probable that one or more adults were introduced by ships from the West Indies and succeeded in establishing themselves at least temporarily in this unusual habitat. Larvae of another, unknown, *Corethrella*, have been frequently taken from this same breeding place but great difficulty has been encountered in rearing them through to maturity.

This record points to the strong possibility of the accidental introduction of other species of mosquitoes from Central or South America through shipping. Beyer (1923) states that he has found adult *Anopheles albimanus* on and about fruit vessels from Central and South America along New Orleans docks time and again. The introduction of some dangerous disease-transmitting mosquito is probably only a matter of time and record. Since the transportation of *Anopheles gambiae* in Brazil (Shannon, 1932, etc.) has been definitely established, we can expect similar occurrences in other parts of the world.

References.

Beyer, G. E.: The mosquitoes of Louisiana. Quart. Bull. La. State Bd. of Health. *14*: 54-84, 1923.

Dyar, H. G., and Shannon, R. C.: The American Chaoborinae (Diptera, Culicidae). Ins. Ins. Mens. *12*: 201-216, 1924.

Dyar, H. G.: Note on *Corethrella appendiculata* Grabham (Diptera, Culicidae). Ins. Ins. Mens. *14*: 150, 1926.

Grabham, M.: A New Corethrella from Jamaica. Ent. News *17*: 343-345, 190.

Shannon, R. C.: *Anopheles gambiae* in Brazil. Amer. Jour. Hyg. *15*: 634-663, 1932.

Studies in the Genus Corticeus Pillar and Mitterpacher (Syn. Hypophloeus Fabricius) (Coleop.: Tenebrionidae).

By FRANK E. BLAISDELL, SR., Stanford Medical School and Associate in Research, California Academy of Sciences, San Francisco, California.

In the *Biologia Centrali-Americana* the generic term *Hypophloeus* Fab. has been submerged and replaced by *Corticeus* Piller and Mitterpacher. This change in nomenclature has been discussed in London at the British Museum, by Mr. K. G. Blair and Dr. Edwin C. Van Dyke very recently, while the latter was visiting and studying at that institution. Their research found the change correct. Mr. E. P. Van Duzee has also very kindly looked up the references and agrees fully with the acceptance of *Corticeus*. The following bibliographical references while not exhaustive, will be sufficient for any one to verify the above as given in the *Biologia* by Mr. Champion.

Genus CORTICEUS Pillar and Mitterpacher.

1783. *Corticeus* Piller et Mitterpacher, Iter per Poseganam Slavoniae, p. 87.
1870. *Corticeus* Crotch (= *Hypophloeus* Fab.), Trans. Ent. Soc. London, 4me. Série, 3, p. 46.
1886. *Corticeus* Champion, Biol. Centr.-Amer., Coleop. IV, pt. 1, June, p. 171.
1920. *Corticeus* ‡ Leng, Crotch, Trans. Ent. Soc. London, 3 (nec 1), p. 46.
1791. *Hypophloeus* (Hellwig.), Fabricius in Schneider's Neu Mag. Ent. i. 1., p. 24. Ent. Syst., i., p. 500.
1854. *Hypophloeus* Mulsant, Col. de France, Latigenes, p. 250.
1859. *Hypophloeus* Lacordaire, Gen. Col. V, p. 338.
1870. *Hypophloeus* Crotch, (*Corticeus* Pill.), Trans. Ent. Soc. London, 4th Series, 3, p. 47.
1870. *Hypophloeus* Horn, Amer. Philos. Soc., vol. XIV, p. 386. Rev. Tenebr. of Amer. N. of Mex.
1920. *Hypophloeus* Leng, Cat. Col. Amer. N. of Mex., p. 234.
1893. *Paraphloeus* Seidlitz, Naturg. Ins. Deutschl., V, 1893-1896, p. 553.

The study of the different specific phases of *Corticeus* is difficult on account of the lack of data concerning the identifi-

cation of sex. Without doubt a number of new species are awaiting differentiation and description. The species recently described by Mr. J. B. Wallis of Winnipeg, Manitoba, Canada (Can. Ent., LXV, Nov., 1933, pp. 247-249.) are valid.

It is desirable at the present time to describe the following as another addition to the genus:

Corticeus strublei new species.

Form somewhat stout, elongate, parallel and subcylindrical. Color moderately dark rufous; mesosternum, metasternum, parapleurae and epipleurae more or less nigro-piceous; abdomen somewhat tinged with piceous. Luster shining, head rather alutaceous.

Head distinctly triangular before the posterior border of the eyes, the latter moderate in size, facets rather coarse, arising abruptly from the surface, in prominence arcuately continuing the sides, the latter strongly convergent anteriorly and nearly straight, feebly sinuate across the oblique suture, very feebly reflexed; epistomal apex arcuato-truncate, angles obtusely rounded; frons convex anteriorly, epistoma less so, rather feebly and somewhat broadly impressed on the frontal suture, as well as within and parallel to the sides; interocular impression well marked between the posterior margins of the eyes; surface very finely punctate anteriorly, epistomal punctures more or less poorly defined, interocular impression and vertex more coarsely punctate. Labrum transverse, arcuate apically. Antennae moderate in stoutness, in length quite equal to width of pronotal apex; segments six, seven and eight widest and equal, seventh in width equal to one-seventh of the pronotal apex, fifth, ninth and tenth a little narrower and subequal, eleventh short oval and slightly narrower; second segment subquadrate, third slightly elongate and obconical, fourth subconical and as long as wide.

Pronotum as long as wide, apex arcuato-truncate between the short, slightly prominent and very narrowly rounded angles, one-seventh wider than the head; sides evenly and less than moderately arcuate, marginal beads fine and reflexed, submarginal impression scarcely widened apically and basally; base broadly and moderately arcuate, somewhat feebly sinuate laterally, about one-seventh wider than the apex, angles small, very distinct and rectangular; disk evenly and moderately strongly convex, beads clearly visible from above, rather coarsely punctate, punctures rather irregular, separated by a distance equal to one to three times their diameters, a narrow and smooth median line more or less evident. Prosternum and

prothoracic sides coarsely and densely punctate, punctures more or less coalescent and with some rugulae evident.

Elytra oblong and parallel, about twice as long as wide and fully two-and-one-seventh times as long as the pronotum; base transverse, humeri obtusely rectangular; sides straight, becoming gradually arcuate in apical third, continuously so with the broadly and moderately arcuate apex; disk feebly convex in the central area, gradually more strongly arcuate and precipitous laterally and apically; coarsely punctate as on the pronotum, punctures separated by a distance equal to one to four times their diameters, strial series not evident. Scutellum slightly transverse, sides straight and rather convergent basally; apex arcuate to slightly ogival, surface with few coarse and well defined punctures.

Mesosternum, metasternum and parapleurae densely punctate, punctures moderately coarse.

Abdomen moderately strongly convex, lateral impressions rather strong on last three segments; moderately strongly and closely punctate laterally and on first two segments, punctures smaller in the central area and on apical segments. First segment behind the coxae as long as the third, second slightly longer than the fifth and one-half longer than the fourth. Pygidium evenly punctate, punctures moderately small and strong.

Legs moderate in length and slenderness; metatibia as long as its femur, metatarsi about three-fifths as long as their tibia; fourth metatarsal segment a little longer than the first three together; second and third subequal, each about one-fifth as long as the fourth, first scarcely as long as the two following.

Measurements: (Type) Length 4 mm.; width 1.4 mm.

Holotype, female, No. 3723, in the collection of the Museum of the California Academy of Sciences. Sex determined by the protruded aedeaga. Collected at Pine crest, Marin County, CALIFORNIA, from Red Fir (*Abies magnifica* Murr.), by G. R. Struble, to whom the species is dedicated. A pin label bears the number 191710. One identical female *paratype* taken with the type. Several smaller specimens are associated with the types, they were secured under the same conditions and time. Two of them have dark sterna and measure 3.2 mm. in length, and .9 mm. in width, one is a female. The males have not been identified, although one male has the aedeagus exposed and was collected at Cazadero, California. There are some differences in sculpturing which cannot be correlated.

Strublei is coarsely punctate, except on the front of the head where the punctures are very fine; the punctuation of the under surface of the body is dense and, typically the mesosternum, metasternum, parapleurae and epipleurae are more or less nigropiceous. *Strublei* is less convex than *glaber* Lec. and the pronotal apical angles are more prominent and narrowly blunt. In both *substriatus* Lec. and *parallelus* Melsh. the pronotal apical angles are larger, prominent and acute. In form *strublei* is larger (types) and somewhat stouter than *subopacus* Wallis. In the latter the head and prothorax are more or less piceous and alutaceous; the punctation is less coarse, distinctly coarser on the front of the head than in *strublei,* besides the pronotal apical angles are more broadly rounded.

COMMENTS ON THE TECHNIQUE OF ORIENTATION.

To correctly describe the outlines of the body of a species, when drafting a description, it is necessary, in order to obtain perfect symmetry, to have the line of vision at right angles to the transverse horizontal plane. This is particularly true of the pronotum. Its four angles must be on the same horizontal plane so that they shall appear equally well defined in the microscopic field. This is absolutely necessary for making camera lucida drawings. With proper orientation the pronotal apex, base and sides will then be as they should appear when viewed from above—in the position for correct description. For the larger species the microscope is not necessary and is replaced by the hand lens for ordinary work.

Applying the above rules, the apical and basal pronotal margins, will be in the best position for determining the degree of truncation or arcuation. To test out the fallacies that arise during careless examination note the following: should the apical margin be arcuate and the pronotal apex be gradually tilted upwards, it will be observed that the arcuation slowly disappears and is replaced by truncation; or should the apex be truncate, it will appear emarginate. So it is with the base when the inclination is reversed.

In the species of *Corticeus* belonging to the *tenuis* group, the pronota are of greater convexity anteriorly and the surface

arcuately declivous antero-laterally. Measured in the manner described above, the pronotal length on the median vertical plane, will be found to be greater than that of the sides from the apical to the basal angles. In the *parallelus* group the differences are less on account of the prominent apical angles and the more or less emarginate pronotal apex.

The above technique, when applied to *Corticeus occidentalis* Wallis, in which both the pronotal apex and base are arcuate, shows that the length on the median vertical plane is about one-fourth longer than the sides from the apical to the basal angles. A paratype and three other specimens of *Corticeus subopacus* Wallis, kindly given to me by my friend Ralph Hopping, have the pronotal apex transverse and the base arcuate; the difference in length on the median vertical plane, is about one-ninth greater than that of the sides from angle to angle. The difference in length is due to the basal arcuation.

Collecting Notes on Oeneis katahdin Newcomb (Lepid.: Satyridae).

By W. Prescott Rogers, Fall River, Massachusetts.

Mt. Katahdin is located in the central part of northern Maine. There are two good methods of approach by motor car. The first is from Bangor to Millinocket and then by the Sandy Stream tote road, on which road the civilian Conservation Corps did extensive work during the summer and autumn of 1933 so that it is now reasonably passable for automobiles. The other approach is by Greenville, Maine, down the Great Northern Paper Company's private road to Ripogenus Dam. The C.C.C. has also been working on this road. From this dam it parallels the Soudnahunk Stream, a branch of the Penobscot River, is known as the Soudnahunk-Millinocket tote road and joins the Sandy Stream tote road below Togue Pond Camp at a point designated on the maps as Pittman's Garage. This latter is a shed for the private storage of a few automobiles. It is in no sense a garage and nobody lives there.

The Hunt and the Abol trails, both of which start from the

Soudnahunk tote road, may be used by insect collectors to reach the tableland summit of the mountain. The trail used by the writer is a third method of approach. We motored to Togue Pond and then walked up the Sandy Stream tote road to Basin Ponds, then to Chimney Pond, where that unique character of the mountain, LeRoy Dudley, with Mrs. Dudley, maintains a comfortable camp for mountain climbers about three miles from the summit. Collectors and mountain climbers alike are welcomed under all weather conditions. From Chimney Pond Camp one may ascend the Parson's Trail to the Saddle, a satisfactory method of reaching the collecting grounds.

The summit of Mt. Katahdin is a long and wide plateau narrowing in the middle and broader at both ends. It might be compared roughly with an hourglass with a hook at the base. The top part of the hourglass corresponds to the Northern and Hamlin Peaks. The narrow part corresponds to that area known as the Saddle and the bottom part of the hourglass is that area on which are located Monument or Baxter, and South Peaks, extending westward to Witherle Ravine and the Gateway. Our "hook" begins at the South Peak and is a fascinating and jagged ridge extending around and terminating at Pamola Peak. This is known as the Knife Edge.

The butterfly *Oeneis katahdin*, first described by Mr. H. H. Newcomb, in 1901, may be said to inhabit the entire plateau and may even be taken on the Knife Edge in the little dip between Chimney and Pamola Peaks. These notes are offered for others who might wish to visit that picturesque region.

About June 24, 1933, it is reported Mr. Cary from Philadelphia, starting from Chimney Pond, ascended the Parson's Trail and succeeded in taking three specimens at the Saddle. July 4th Messrs. Charles Warner and Ronald Gower, during an exploring expedition, ascended the plateau by way of the Northern Peaks, thence past Hamlin Ridge and down the Parson's Trail to Chimney Pond. Several specimens of *O. katahdin* were noted on the plateau between the Northern Peaks and Hamlin Ridge. On July 6th Mr. L. P. Grey of Lincoln, Maine, ascending by the Hunt Trail with Mr. C. F. Dos Passos, took numerous specimens on the plateau all the way from Gov-

ernor's Spring to Monument Peak. Both sexes were in abundance and about this date one may figure the species is present in the greatest numbers. On July 14th, with two sons and LeRoy Dudley as our guide, the writer, ascending by the Parson's Trail, took a dozen somewhat rubbed and worn specimens. The first captures were made a half mile above the Saddle and successively all the way up to Monument Peak at an elevation of 5268 feet. Proceeding along the Knife Edge specimens on the wing were occasionally noted as far as Chimney Peak. Dropping down into the little grassy hollow that separates Chimney Peak from Pamola, we lunched. A remarkably clear day without wind was of material benefit in our collecting. We took six presentable specimens at this point. Proceeding up Pamola Peak additional specimens were seen and taken all the way down to Index Rock which is at an elevation of approximately 3700 feet.

On August 1st, Mr. D. W. Farquhar ascended by the Abol Trail to find a cloud on the summit and reported he saw no specimens of *O. katahdin* flying. Although not a fair day to test collecting, Mr. Farquhar believes the season for the butterfly had terminated.

If one is so fortunate as to get favorable weather in the early part of July the time devoted to search for this species is an interesting adventure. From the Northern Peaks to Monument Peak, around the Knife Edge to Pamola and halfway down there are inspiring views of the Great Basin which will well repay a visit. Some day it will be interesting to discover if this species inhabits the top of Traveller Mountain whose summit is at the same elevation as Index Rock on Pamola.

A New Buprestid Beetle from the Florida Keys (Coleoptera).

By H. C. FALL, Tyngsboro, Massachusetts.

Paratyndaris suturalis n. sp.

Of the usual robust, cylindrical, slightly attenuate form; sparsely clothed throughout with short, silvery white, decumbent pubescence. Color black with obscure violaceous and (on

the elytra) greenish reflections, the elytral suture narrowly more brightly violaceous becoming cupreo-aeneous at the middle of its length.

Head broadly convex, lightly transversely impressed on the vertex, surface shining, rather coarsely closely punctate. Antennae slender, black, serrate from the fifth joint.

Prothorax about one-sixth wider than long, widest at the middle, sides rather strongly rounded, more narrowed in front, the lateral margin faintly sinuate before the somewhat obtuse but sharply defined hind angles; disk evenly and strongly convex and without trace of impressed line, the extreme hind margin with a slight median impression; punctures rather fine, not dense, and at middle of disk showing some tendency to arrange themselves in short transverse lines.

Elytra about four-fifths longer than the thorax and at base as wide as the base of the latter; only slightly attenuate, apices broadly truncate; each with a somewhat oblique ante-median impression, the two confluent on the suture; striae shallow and somewhat confused toward the suture, deeper and more regular at sides, the humeral and submarginal intervals more convex; strial punctures moderate.

Body beneath rather densely and coarsely punctate, shining, with violaceous reflections; last ventral segment acutely pointed but not spiniform at tip. Tarsal joints less slender than in *olneyae,* though not cordiform; claws thickened at base but without any appreciable dentiform prominence.

Length (to tip of elytra) 8 mm.; width 3.4 mm.

Described from a single specimen, probably a female, bearing locality label "Big Pine Key, FLORIDA, VII-20-29."

I am indebted to Mr. C. A. Frost for the privilege of retaining the unique type of this rare and interesting species. Mr. Frost writes that he received it from Mr. C. G. Siepmann, of Rahway, New Jersey, by whom it presumably was collected.

There can hardly be a doubt I think that the present species should be considered congeneric with our several previously described Texas and Arizona species. These, with a single exception, were all originally referred to *Tyndaris,* but have been separated by Mr. W. S. Fisher (Proc. Ent. Soc. Wash., 1919, p. 92) under the new generic name *Paratyndaris,* the chief distinguishing characters of which are said to be—the

more cylindrical form; prothorax not twice as wide as long; antennae more slender, the serration beginning with the sixth or seventh joint (instead of the fifth joint as in *Tyndaris*); tarsal joints not cordiform; abdomen, which is longer than the elytra, terminating in a spine, and is visible from above. All the known species of true *Tyndaris*, about five in number, are from far down in South America (Chile, Argentina, Paraná).

Strictly interpreted, certain of Fisher's points of distinction between *Tyndaris* and *Paratyndaris* are more or less weakened in the light of the structure of the present species. In it, *e.g.*, the serration of the antenna begins with the fifth joint as in typical *Tyndaris*, and the last ventral segment is no more acute at apex than in the South American *T. planata*. In the latter moreover, judging from a specimen in the museum at Cambridge, although the joints of the four anterior tarsi are evidently cordiform, those of the hind tarsus are not perceptibly different from those in our Florida species, in which the tarsi as a whole are less slender than in our western species of *Paratyndaris*.

The occurrence in the Florida Keys of a species of either *Tyndaris* or *Paratyndaris* is both notable and wholly unexpected, the more so in that Fisher's Revision of West Indian Buprestidae contains no species of either genus, nor is there a single species given in the *Biologia*.

By its entire lack of maculation *P. suturalis* is at once separable from our previously known species, all of which are ornamented with red or yellow spots or stripes. There are numerous other distinguishing characters, as a perusal of the description will show.

In his description of his *P. coursetiae* Mr. Fisher alludes to a broadly rounded lobe on the hind margin of the third ventral segment. I have noticed such a lobe in both *olneyae* and *chameleonis*, but on the second ventral rather than the third. This structure is probably a male sexual character as suggested by Fisher.

Entomological Literature

COMPILED BY LAURA S. MACKEY UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The **figures within brackets** [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of ENTOMOLOGICAL NEWS for 10c. The number of, or annual **volume**, and in some cases the part, heft, &c. the latter **within** ( ) follows; then the pagination follows the **colon** :

All continued papers, with few exceptions, are recorded only at their first installments.

(*) Papers containing new forms or names not so stated in titles, have an * within parentheses thus (*) following the pagination of reference to paper.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. Titles of papers containing new forms or new names will be indicated by an asterisk within parentheses at end of reference, (*).

Papers published in the Entomological News are not listed.

GENERAL.—Birdsong, R. E.—Insects of the Bible. [19] 29: 102-106. **Boldt, R.**—Nicht-Entomologen als Insektenspezialisten. [14] 48: 17-19. **Carpenter, F. M.**—Carboniferous insects from Pennsylvania in the Carnegie Museum and the Museum of Comparative Zoology. F. M. Carpenter. [Ann. Carnegie Mus.] 22: 323-341, ill. **Carpenter, G. D. H.**—Mimicry in insects. [31] 133: 761. **Cockerell, T. D. A.**—What is a locust? [68] 79: 481. **Engelhart, G. P.**—The winter of 1933-34, and insect occurrence. [19] 29: 115. **Howard, L. O.**—More about the beginnings of the Society. [10] 36: 51-55. **Knight, P.**—The problems of insect study. Edwards Bros., Inc., Ann Arbor, Michigan. Lithoprint, one side, 118 sheets. **Navás, L.**—Insectos Suramericanos. [Rev. Acad. Cien. Exactas fisico-quimicas y Nat. Madrid] 31: 9-28, ill. (*). **Norwegian North Polar Expedition** with the "Maud." Sci. Results V. No. 16 a-d. Anoplura pinnipediorum, Culicidae u. Oestridae. Von L. R. Natvig. No. 16a, 20 pp. Collembola von W. M. Linnaniemi. No. 16b, 4 pp. Lepidopteren von K. Haanshus. No. 16c, 1 p. Spinnen (Araneae) von M. Dahl. No. 16d, 2 pp. [Med. Zool. Mus. Oslo.] Nos. 34-37. **Popenoe, C. H.**—Obituary by Graf and White. [10] 36: 67, ill. **Proper, A. B.**—Obituary by T. H. Jones. [5] 41: 49. **Rohwer, S. A.**—Remarks on changes in the Entomological Society of Washington during the last quarter of a century. [10] 36: 55-59. **de la Torre-Bueno, J. R.**

—Disinfection of collections. [19] 29: 98. **de la Torre-Bueno, J. R.**—Methods and technique for the collector. [19] 29: 125. **de la Torre-Bueno, Engelhardt, Siepmann.**—Report of the Publication Committee of the Brooklyn Entomological Society for 1933. [19] 29: 116-119. **Wickham, H. F.**—Obituary by L. L. Buchanan. [10] 36: 60-64, ill.

ANATOMY, PHYSIOLOGY, ETC.—Becker, E.—Zur frage ueber den bau des postantennalorgans bei Collembola. [Zool. Jour., Moscow] 12: 130-135, ill. **Brues, C. T.**—Growth and determinate size in insects. [5] 41: 42-48. **Hall, J. A.**—Observations on the behaviour of newly hatched codling moth larvae. [4] 66: 100-102. **Hrabe, S.**—Das mundorgan von Enchytraeus albidus, Achaeta bohemica und einigen anderen Enchytraeiden. [34] 106: 245-251, ill. **Lemche, H.**—Einige faelle von flügelreduktion bei Selenia bilunaria nach fütterung mit mangan-inkrustierten blättern. [97] 53: 591-600, ill. **von Lengerken, H.**—Ist beim Pillendreher ein sozialer instinkt entwickelt? [2] 30: 74-76, ill. **Philip, U.**—Spontaneous crossing-over between X- and Y-chromosomes in Drosophila melanogaster. [31] 133: 726. **Pflugfelder, O.**—Bau und entwicklung der spinndruse der blattwespen. [94] 145: 261-282, ill. **Pinkus, L. F.**—Spider bite by Oligoctenus (Ctenidae) [5] 41: 36-37. **Stewart, M. A.**—The therapeutic behavior of Lucilia sericata larvae in osteomyelitis wounds. [68] 79: 459-460. **de la Torre-Bueno, J. R.**—Decapitation of Notonecta insulata by Dineutes. [19] 29: 119. **Usinger, R. L.**—Blood sucking among Phytophagous Hemiptera. [4] 66: 97-100. **Wigglesworth, V. B.**—Factors controlling moulting and "metamorphosis" in an insect. [31] 133: 725-726.

ARACHNIDA AND MYRIOPODA.—Bryant, E. B.—New Lycosidae from Florida. [5] 41: 38-41, ill. **Dahl, M.**—(See Norwegian under General.) **Bonnet, P.**—Tentative de croisements entre araignees d'especes differentes. [Bull. Soc. Hist. N. Toulouse] 1933: 618-624. **Chamberlin & Ivie.**—A new genus in the family Agelenidae. [Bull. Univ. Utah] 24: No. 5, 4 pp., ill. **da Fonseca, F.**—Der schlangenparasit Ixodioides butantanensis n.g.n.s.p. (Ixodorhynchidae n. fam.) [Zeit. f. Wiss. Biol.] Abt. F. 6: 508-527, ill. (S). **Gertsch, W. J.**—Further notes on American spiders. [40] No. 726: 26 pp., ill. (*). **Leitae, M.**—Quatro novos palpalores neotropicos. [An. Ac. Brasil. Sci.] 5: 99-103, ill. (*). **Loomis, H. F.**—Millipeds of the West Indies and

Guiana collected by the Allison V. Armour Expedition in 1932. [Smiths. Misc. Coll.] 89: 1-69, ill. **Meise, W.**—Norwegian zoological expedition to the Galapagos Islands. 1925. Scorpiones. [Med. Zool. Mus. Oslo] 39: 25-43, ill. (*). **Skidmore, L. V.**—Acariasis of the white rat (Rattus norvegicus form albinus). [4] 66: 110-115, ill. **Vigueras, J. P.**—On the ticks of Cuba, with description of a new species, Amblyomma torrei, from Cyclura macleayi. [5] 41: 13-18. **Werner, F.**—Bronns Klassen und ordungen des tierreichs, Bd. 5. Abt. 8. Scorpiones, Pedipalpi. Lief. 1, pp. 1-160, ill.

THE SMALLER ORDERS OF INSECTS.—Hood, J. D.—Two new genera and species of Phlaeothripidae. [10] 36: 111-120, ill. (S). **Hood, J. D.**—A new Eurythrips (Thysanoptera) from Trinidad. [5] 41: 1-5, ill. **Kofoid, C. A., et al.**—Termites and termite control. Univ. Cal. Press, 733 pp., ill. **Linnaniemi, W. M.**—(See Norwegian under General). **Moretti, G. P.**—Esperimenti sulla ricostruzione dei foderi larvali dei Tricotteri. [Mem. Soc. Ent. Italiana] 12: 228-261, ill. **Natvig, L. R.**—(See Norwegian under General). **Shaftesbury, A. D.**—The Siphonaptera of North Carolina, with special reference to sex ratio. [Jour. E. Mitchell Sci. Soc.] 49: 247-261. **Somme, S.**—Birds as enemies of dragonflies. [Norsk Ent. Tidssk.] 3: 223-224. **Werneck, F. L.**—Estudo sobre o Trichodectes do furao (Mallophaga). Sobre algumas especes brasileiras da ordem Mallophaga. [Mem. Inst. O. Cruz] 28: 161-165; 167-180, ill. (S*).

ORTHOPTERA.—Ander, K.—Neue laubheuschrecken aus der familie Gryllacrididae. [102] 18: 481-493, ill. (S*). **Cornwell, W. S.**—Notes on the egg-laying and nesting habits of certain species of North Carolina myriopods, and various phases of their life histories. [Jour. E. Mitchell Sc. Soc.] 49: 289-291. **Norris, M. J.**—Contributions towards the study of insect fertility. [Pro. Zool. Soc. London] 1933: 903-934. **Pittioni, B.**—Ueber schlafgesellschaften solitarer insekten. [Verh. Z. B. Ges. Wien] 83: 192-201. **Tan & Li.**—Inheritance of the elytral color pattern of the lady-bird beetle Harmonia axyrides. [90] 68: 252-265, ill.

HEMIPTERA.—Barber, H. G.—The first type fixation for Cimex. [19] 29: 106. **Bruner & Metcalf.**—A new Bythoscopidae from Costa Rica. [19] 29: 120-124, ill. **Heaton,**

R. R.—An annotated list of the Fulgoridae of Indiana. [19] 29: 107-115. **Mayer, K.**—Eine merkwürdige blausaüreschädigung bei larven der wanze Rhodnius picipes. [Zeit. f. Wiss. Biol.] Abt. F. 6: 557-558, ill. **Mordvilko, A.**—On the evolution of aphids. [52] N. F. 3: 1-60, ill. **Muir, F. J.**—Additions to our knowledge of the Achilixiidae (Fulgoroidea). [8] 70: 132-133, ill. (S*). **Musgrave, L. I.**—Miridae heretofore unrecorded from Indiana. [19] 29: 99-101. **Oman, P. W.**—New species and a new genus of North American Deltocephaline leafhoppers. [10] 36: 75-80, ill. **Taeuber, W. H.**—Eine neue attophile Reduviidae aus Sudamerika. [34] 106: 187-189. **de la Torre Bueno, J. R.**—Fulvius imbecilis, a mirid new to New York. [19] 29: 124.

LEPIDOPTERA.—Bates, M.—New lepidoptera from the Bahamas. [Occ. Pap. Boston Soc. Nat. Hist.] 8: 133-138. **Bell, E. L.**—New American Hesperiidae (Rhopalocera). [19] 29: 89-95, ill. (S). **Bell, E. D., et al.**—On the stabilizing of four generic names (Rhopalocera). [4] 66: 119. **Busck, A.**—Tortilia viatrix, new species. An African moth on Senna imported into the United States. [10] 36: 68-70, ill. **Busck, A.**—A new genus and species of the family Gelechiidae. [10] 36: 82-85, ill. **Engelhardt, G. P.**—Memythrus fraxini, a new record for New York State. [19] 29: 101. **Farquhar, D. W.**—Notes on a psychid new to North America (Fumea casta pallas, Psychidae). [5] 41: 19-29, ill. **Gaede, M.**—Lepidopterorum Catalogus. Pars 59. Notodontidae. 351 pp. **Haanshus, K.**—(See Norwegian under General). **Hemming, F.**—The type of the genus Pyrgus (Hesperiidae): A correction. [9] 67: 112-113. **Higgins, L. G.**—Notes on list of generic names of British butterflies. [21] 46: 44-45. **Jones & Farquhar.**—The identity of an introduced psychid, Fumea casta Pallas (Psychidae). [5] 41: 30-35, ill. **McDunnough, J.**—Notes on Canadian Diurnal Lepidoptera. [4] 66: 81-87. (X). **Niepelt, W.**—Neue exotische Falter. [18] 28: 53-56, ill. (S*). **Prout, L. B.**—Lepidopterorum Catalogus. Pars 61. Geometridae: subfamilia Sterrhinae I. 176 pp. **Richards, A. G.**—Some interesting State noctuid records from the State Museum. [19] 29: 115. **Schüssler, H.**—Lepidopterorum Catalogus. Pars 58. Saturniidae: 2. Subfam. Saturniinae II et 3. Subfam. Ludiinae I. 325-484. **Talbot, G.**—Lepidopterorum Catalogus. Pars 60. Pieridae II. 321-384. **Turner, H. J.**—No-

menclature. The list. [21] 46: 46-48, cont. **Williams & Bell.**—Studies in the American Hesperioidea. III. On the synonymy of some species. [1] 121-132, ill.

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SPECIAL NOTICES.—Animalium Cavernarum Catalogus.—Auctore B. Wolf. Pub. by W. Junk, Berlin. This is a catalog of cave animals arranged geographically and systematically and includes a bibliography. It is to appear in three series or bands: 1. containing the bibliography, 2. the geographical and 3. the systematical arrangement. Part 1 containing 16 pp. of Bd. 1., 32 pp. of 2 and 64 pp. of 3 has just appeared.

OBITUARY.

JOHN MERTON ALDRICH.

In the untimely death of this great dipterologist, May 27, 1934, science has lost one of its few conservative, constructive students of Diptera, his colleagues a valued friend and mentor and his immediate associates and family a beloved character.

Dr. Aldrich was born January 28, 1866 in Little Valley, Olmstead County, Minnesota, received his education in a number of institutions including the South Dakota State College (B.S., 1888, M.S., 1891); Michigan State College; University of Kansas (M.S., 1893); Stanford University (Ph.D., 1906). He taught at the South Dakota College and was professor of biology at the University of Idaho, 1893-1913. In the latter year he joined the staff of the Federal Bureau of Entomology with his first assignment at Lafayette, Indiana, and in 1919 was appointed associate curator in charge of the Division of Insects at the United States National Museum, Washington.

Dr. Aldrich early made Diptera his special study and published many taxonomic papers on the various families. In 1905 he gave us the results of many years' work, in his monumental "A Catalogue of the North American Diptera", a volume of 680 pages now procurable only through second hand dealers. Lately and until his death he was making a special study of the difficult family Tachinidae, a field where his characteristic conservatism was greatly needed. His untimely death has interrupted and will probably long delay the much needed revision of that greatly abused group of parasitic flies. The world can little afford to lose such characters or science such students. Conservative builders are what the world needs now.

E. T. CRESSON, Jr.

We regret to learn of the death, April 21, 1934, of the well known student of the dipterous family Dolichopodidae, MILLARD C. VAN DUZEE, many of whose papers appeared in the NEWS.

We also learn, to our regret, of the death of F. S. CARR, Inspector of Schools, at his home at Medicine Hat, Alberta, Canada, on May 16, 1934, at the age of fifty-two years, after a long illness of five and a half months. His wife survives him. He was interested in North American Coleoptera.

Dr. HENRY WORMSBACHER, of Lakewood, Ohio, one of the better known of the old school of Lepidopterists, passed away in the third week of June of this year, as we regretfully hear from Mr. C. W. Baker, who informs us that he leaves a wonderful collection of Lepidoptera which numbers approximately 30,000 specimens, both boreal American and exotic.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Wanted—Names and addresses of those desiring insects from Colorado. Charles H. Hicks, P. O. Box 262, Boulder, Colorado.

Geometers Wanted for cash, or in exchange for West Coast Butterflies, Noctuids or other Geometers. Edward Guedet, P. O. Box 305, Napa, Calif.

Wanted—Papilios, Ornithoptera, Uranias, Morphos, Theclas, uniques, and many other attractive butterflies. Also living cocoons and pupae. A. Glanz, 740 New Lots Ave., Brooklyn, N. Y.

Exchange—Pachysphinx modesta. Progeny of modesta imperator (female) and normal male to exchange for Erinnys or other southern Sphingids. Heodes dorcas and others offered for Florida Theclas or Hesperiidae. Perfect specimens only. H. M. Bower, 1302 Davis Street, Evanston, Illinois.

Exchange—Will collect insects of Connecticut this season and desire to get in touch with collectors desiring this material, either in exchange or for cash. Harry L. Johnson, So. Meriden, Conn.

Wanted—Names and addresses of those desiring Cocoons of Actias luna and Automeris io. Exchange considered. Eggs in season. Virginia Weaver, 822 S. College Ave., Tulsa, Okla.

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985.—**Huckett** (H. C.).—A revision of the North American species belonging to the genus Coenosia (Muscidae). I. The subgenera Neodexiopsis, Coenosia, Hoplogaster and related genera Allognota, Bithoracochaeta and Schoenomyza. (Trans., **60**, 57-119, 4 pls., 1934) 1.25

987.—**Huckett** (H. C.).—A revision of the North American species belonging to the genus Coenosia (Muscidae). II. The subgenus Limosia. (Trans., **60**, 133-198, 6 pls., 1934) 1.25

LEPIDOPTERA

986.—**Williams & Bell.**—Studies in the American Hesperioidea. III. On the synonymy of some species. (Trans., **60**, 121-132, 1 pl., 1934) ..... .30

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M-8.—**Rehn & Rehn.**—The Eumastacinae of southern Mexico and Central America (Orthoptera: Acrididae). (Mem. 8, 84 pp., 6 pls., 1934) 2.50

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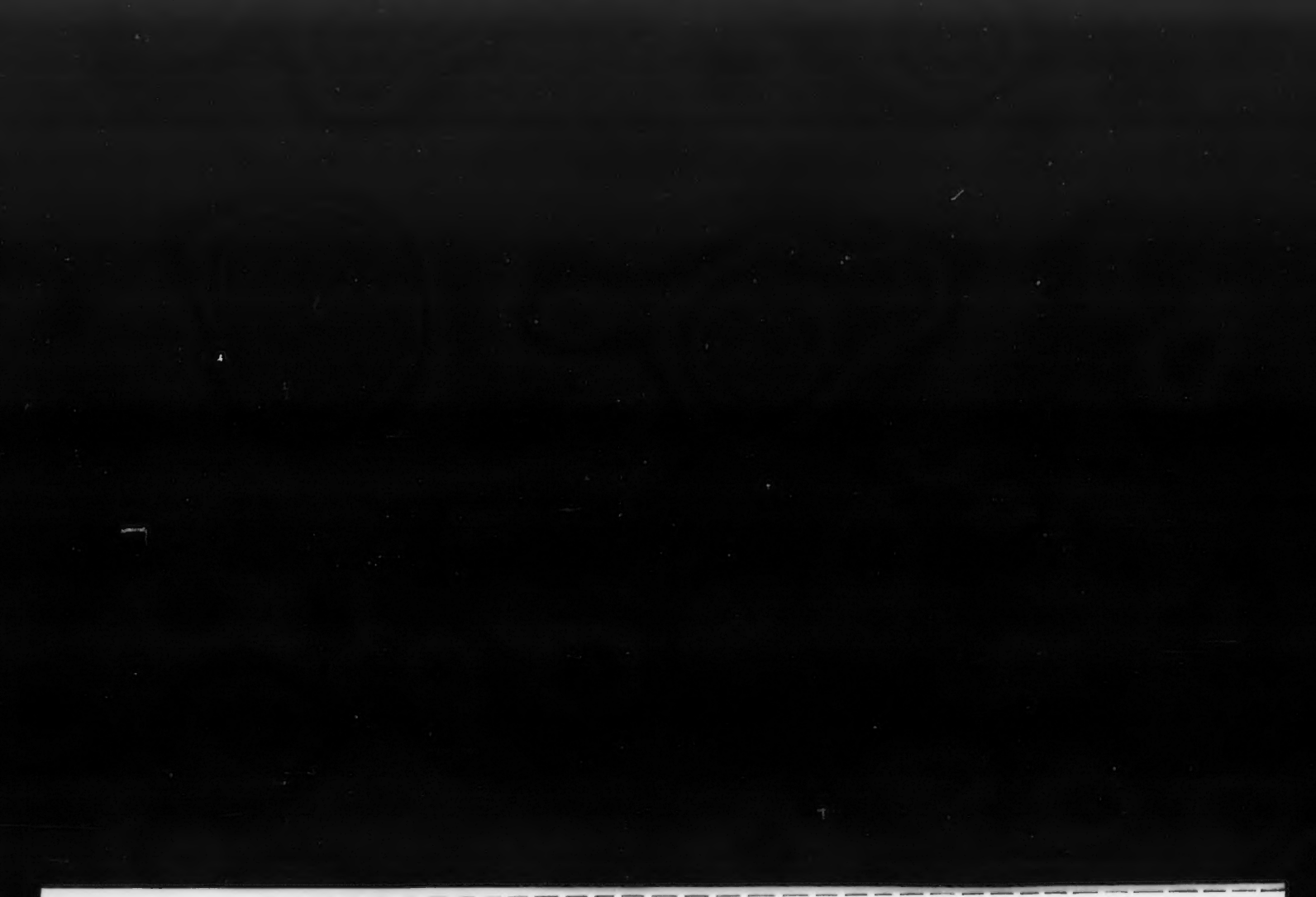

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